

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331933-927

Luminaire Tested: **S123DIP-S560D805U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331933-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S560D805U927-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4176.2 lumens  
Efficiency: N/A  
Efficacy: 108.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

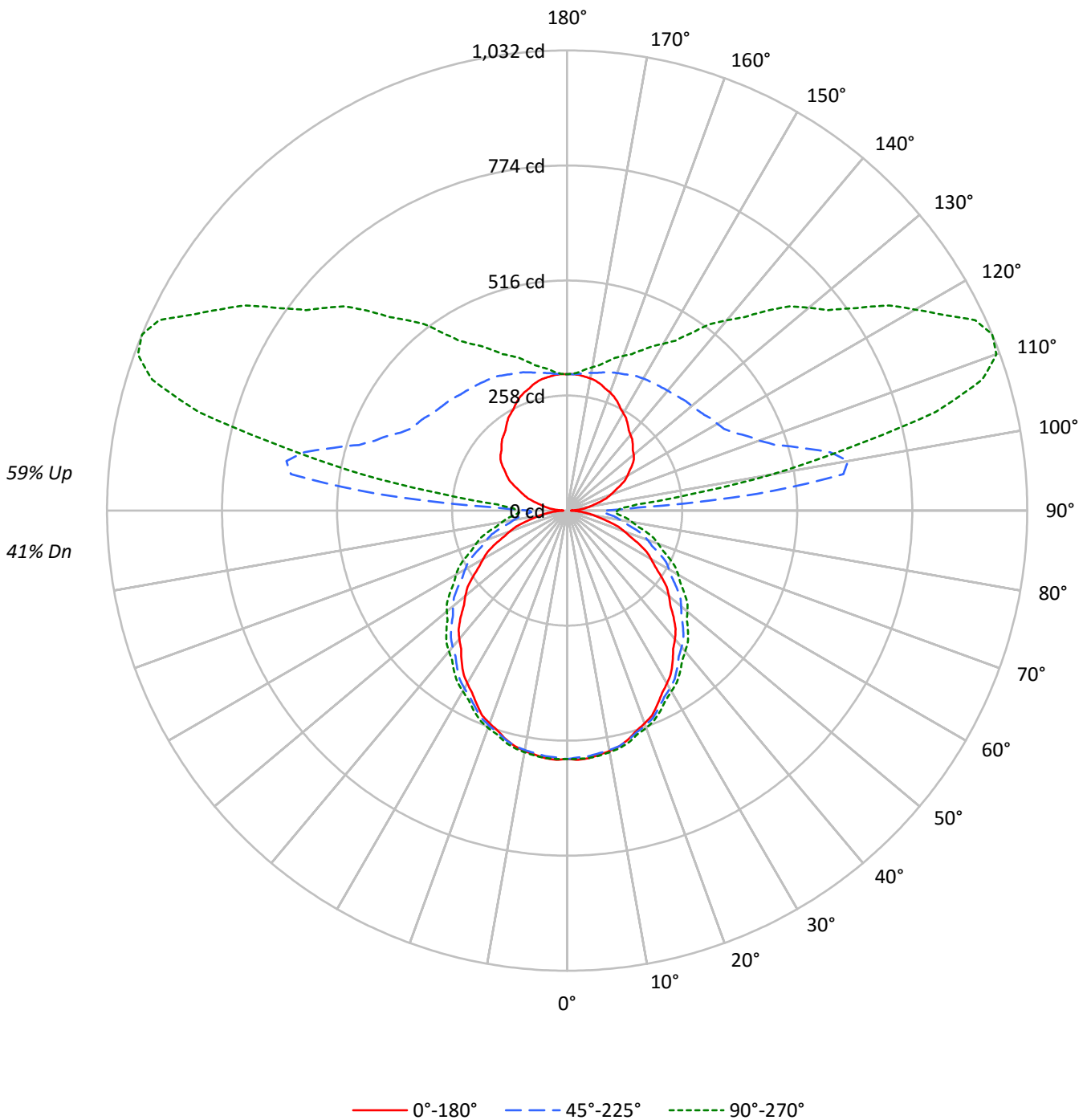
Input Watts (W): 38.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41					41			
1	95	90	86	82	86	82	79	75	67	65	62	54	52	50	41	40	39					33				
2	86	78	72	67	78	71	66	61	59	54	51	47	44	41	36	34	32					27				
3	78	69	61	55	71	63	56	51	51	46	42	41	37	35	31	29	27					22				
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	28	25	23					19				
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20					16				
6	60	48	40	34	55	44	37	31	36	31	27	29	25	22	23	20	17					14				
7	56	43	35	30	50	40	33	27	33	27	23	26	22	19	21	18	15					13				
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	14					11				
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12					10				
10	45	33	25	21	41	30	24	19	25	20	16	20	17	14	16	13	11					9				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5997	5997	5997
5°	6015	5845	5849
10°	5961	5711	5682
15°	5884	5558	5501
20°	5774	5383	5300
25°	5639	5182	5090
30°	5500	5002	4877
35°	5344	4810	4707
40°	5195	4636	4524
45°	5031	4469	4378
50°	4868	4304	4219
55°	4689	4134	4074
60°	4513	3964	3925
65°	4335	3780	3750
70°	4066	3576	3568
75°	3724	3338	3386
80°	3326	3109	3176
85°	2963	2948	3053



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.8	1.3
10°-20°	150.5	3.6
20°-30°	225.2	5.4
30°-40°	268.9	6.4
40°-50°	281.3	6.7
50°-60°	264.0	6.3
60°-70°	220.5	5.3
70°-80°	157.8	3.8
80°-90°	96.4	2.3
90°-100°	229.3	5.5
100°-110°	525.5	12.6
110°-120°	503.3	12.1
120°-130°	394.9	9.5
130°-140°	305.7	7.3
140°-150°	224.2	5.4
150°-160°	155.2	3.7
160°-170°	91.2	2.2
170°-180°	29.7	0.7
0°-30°	428.5	10.3
0°-40°	697.4	16.7
0°-60°	1242.7	29.8
0°-90°	1717.4	41.1
90°-120°	1258.0	30.1
90°-150°	2182.8	52.3
90°-180°	2459.0	58.9
0°-180°	4176.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	558	556	553	557	557	53
15°	531	533	532	538	538	149
25°	479	485	487	495	495	221
35°	413	422	430	439	442	258
45°	337	352	367	378	384	260
55°	257	277	299	315	320	230
65°	178	202	228	246	252	176
75°	96	125	155	175	183	103
85°	30	60	92	112	119	31
90°	9	45	84	106	113	7
95°	28	99	427	185	157	28
105°	77	126	543	933	856	81
115°	130	169	413	881	1010	129
125°	178	211	375	676	792	158
135°	208	248	358	548	634	161
145°	236	270	346	440	486	148
155°	268	289	335	381	397	123
165°	293	301	321	340	346	83
175°	305	306	308	312	312	29
180°	306	306	306	306	306	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	559.5	559.2	558.9	558.5	558.2	557.6	556.7	555.9	555.0	554.1	555.0
5°	557.7	557.4	557.1	556.9	556.6	556.0	555.2	554.4	553.7	552.8	553.9
7.5°	552.2	552.2	552.3	552.4	552.5	552.1	551.3	550.5	549.7	548.9	550.2
10°	547.4	547.6	547.9	548.2	548.4	548.3	547.6	546.9	546.2	545.6	546.9
12.5°	541.5	541.9	542.3	542.6	543.0	543.0	542.6	542.1	541.6	541.1	542.4
15°	531.0	531.4	531.8	532.2	532.6	532.7	532.6	532.4	532.3	532.2	533.5
17.5°	517.6	518.4	519.3	520.1	520.9	521.3	521.2	521.1	521.1	521.0	522.2
20°	507.9	508.7	509.5	510.3	511.1	511.7	512.0	512.2	512.5	512.8	514.0
22.5°	497.7	498.5	499.3	500.2	501.0	501.5	501.9	502.3	502.7	503.0	504.6
25°	479.4	480.8	482.1	483.5	484.8	485.7	486.1	486.5	486.9	487.3	489.0
27.5°	461.0	462.5	464.1	465.6	467.1	468.3	469.1	470.0	470.9	471.7	473.2
30°	447.8	449.6	451.3	453.1	454.9	456.3	457.3	458.4	459.5	460.6	462.2
32.5°	433.2	435.2	437.2	439.2	441.2	442.8	444.3	445.6	447.0	448.5	450.2
35°	412.6	414.8	416.9	419.1	421.3	423.3	425.0	426.7	428.5	430.2	432.3
37.5°	390.8	393.2	395.6	398.1	400.5	402.8	405.0	407.1	409.2	411.5	413.8
40°	376.2	378.7	381.1	383.5	386.0	388.5	391.2	393.9	396.6	399.3	401.6
42.5°	360.2	363.2	366.1	369.1	372.1	374.9	377.8	380.6	383.4	386.2	388.7
45°	337.4	340.6	343.9	347.1	350.3	353.6	357.0	360.4	363.8	367.1	369.7
47.5°	313.5	317.2	320.8	324.5	328.1	331.9	335.8	339.6	343.5	347.4	350.2
50°	297.9	301.7	305.5	309.3	313.1	317.0	321.2	325.4	329.5	333.7	336.8
52.5°	281.5	285.4	289.5	293.4	297.4	301.7	306.3	310.9	315.5	320.2	323.4
55°	257.3	261.7	266.2	270.6	275.1	279.7	284.6	289.5	294.3	299.1	302.8
57.5°	233.8	238.4	243.0	247.6	252.3	257.3	262.6	267.9	273.2	278.5	282.2
60°	217.2	222.1	227.0	231.8	236.6	241.9	247.4	252.9	258.4	264.0	267.8
62.5°	201.7	206.7	211.7	216.6	221.6	227.0	232.8	238.7	244.5	250.4	254.1
65°	177.8	183.1	188.3	193.6	198.8	204.5	210.4	216.3	222.2	228.1	232.2
67.5°	153.5	159.1	164.7	170.2	175.9	181.6	187.7	193.8	199.8	205.8	210.2
70°	136.6	142.4	148.1	153.9	159.7	165.9	172.3	178.8	185.3	191.8	196.1
72.5°	121.0	126.8	132.6	138.4	144.2	150.4	157.1	163.8	170.5	177.2	181.6
75°	96.5	102.8	109.2	115.5	121.8	128.4	135.1	141.9	148.6	155.3	159.8
77.5°	75.1	81.5	87.9	94.3	100.7	107.3	114.1	120.9	127.7	134.5	139.2
80°	60.0	66.7	73.3	79.9	86.5	93.3	100.3	107.3	114.4	121.4	126.0
82.5°	47.0	53.7	60.4	67.1	73.8	80.7	87.9	95.0	102.1	109.2	113.8
85°	29.7	36.4	43.3	50.0	56.7	63.6	70.8	78.0	85.1	92.2	96.8
87.5°	16.4	23.4	30.3	37.4	44.4	51.4	58.6	65.9	73.1	80.4	84.8
90°	9.1	17.0	24.8	33.3	41.1	49.1	57.8	66.6	75.3	84.1	88.0
92.5°	15.1	24.8	35.9	46.7	57.9	73.4	96.4	129.8	162.7	195.9	241.0
95°	27.7	34.9	46.9	62.7	84.1	114.2	173.4	272.3	380.5	427.4	362.2
97.5°	41.9	47.2	57.3	71.2	91.8	123.5	180.1	290.4	466.1	624.9	668.7
100°	51.3	56.2	64.9	77.9	97.0	126.4	176.0	273.9	443.0	639.3	765.2
102.5°	61.2	66.2	73.9	86.0	103.2	130.4	175.4	259.3	410.4	604.2	767.1
105°	76.7	81.8	88.7	99.4	114.4	138.2	177.4	247.0	369.8	543.4	725.0
107.5°	92.6	97.2	103.5	113.6	127.4	149.3	184.2	242.7	342.6	489.4	654.4
110°	104.0	108.3	113.8	123.0	136.0	157.2	190.5	243.0	331.4	458.8	610.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	114.9	118.7	123.8	132.6	145.1	165.6	196.6	245.4	323.7	437.0	571.1
115°	130.0	134.1	139.4	147.3	159.4	179.4	207.7	250.4	318.4	413.0	523.5
117.5°	145.6	149.5	153.5	160.3	173.0	191.3	219.1	257.4	315.5	396.9	492.8
120°	156.1	158.6	162.3	169.2	181.6	199.7	226.4	263.1	315.2	389.0	476.3
122.5°	165.4	167.6	171.1	178.2	189.7	208.5	234.6	268.5	316.5	383.2	462.5
125°	178.3	179.6	183.3	190.1	201.8	220.5	246.1	277.3	318.4	374.9	444.0
127.5°	188.6	190.4	194.8	201.6	214.4	232.7	256.9	284.6	321.3	369.1	427.3
130°	195.0	196.8	202.2	209.5	222.4	240.4	263.6	289.8	323.4	365.1	417.9
132.5°	199.6	201.8	207.9	216.8	229.7	247.1	269.2	294.4	324.5	362.2	408.9
135°	208.1	210.4	217.1	226.2	239.2	256.5	277.2	299.8	326.0	357.8	396.8
137.5°	216.1	218.6	225.2	235.0	247.8	263.6	282.9	303.8	326.7	353.6	386.3
140°	221.1	224.2	230.4	240.3	252.7	268.4	286.8	305.7	327.2	351.1	379.8
142.5°	227.0	229.5	236.1	244.9	257.2	271.7	289.2	307.4	327.0	348.2	373.7
145°	236.5	238.3	243.8	252.9	263.3	277.5	293.6	310.3	327.6	346.2	367.1
147.5°	245.7	246.8	252.2	260.2	270.4	282.6	297.3	312.3	327.6	343.9	361.2
150°	252.1	252.7	257.6	265.7	274.3	285.5	299.8	312.8	327.6	341.9	357.4
152.5°	258.5	258.6	263.6	270.7	278.3	289.0	301.3	313.8	326.1	339.4	353.4
155°	268.2	268.2	271.9	278.1	284.9	293.6	304.1	314.0	324.6	335.1	347.5
157.5°	275.8	276.3	279.3	284.8	290.6	297.3	305.7	314.7	322.4	331.2	340.8
160°	281.8	281.8	284.3	289.2	293.6	299.8	307.2	314.7	321.5	328.3	336.3
162.5°	286.3	286.3	288.3	292.2	296.0	301.3	307.7	314.1	319.5	325.3	331.8
165°	292.9	292.3	293.6	296.7	299.1	303.5	308.4	312.8	316.5	320.8	325.7
167.5°	298.0	297.3	297.9	300.2	302.0	304.8	308.3	311.8	313.5	316.4	320.0
170°	301.0	299.8	300.4	302.2	303.5	304.8	307.8	310.3	311.6	313.4	316.5
172.5°	303.0	302.2	302.4	303.7	304.4	305.2	307.8	309.8	310.1	310.9	313.0
175°	305.3	304.8	304.1	305.3	305.3	305.9	307.2	308.4	307.8	307.8	309.0
177.5°	306.4	305.9	305.5	305.9	305.9	305.9	306.4	307.4	306.4	305.9	306.4
180°	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	555.9	556.7	557.6	558.0	557.9	557.8	557.7	557.5
5°	555.0	556.0	557.1	557.6	557.5	557.3	557.2	557.1
7.5°	551.6	552.9	554.4	554.9	554.8	554.6	554.4	554.3
10°	548.3	549.6	551.0	551.4	551.2	551.0	550.6	550.4
12.5°	543.7	544.9	546.1	546.6	546.4	546.1	545.8	545.6
15°	534.9	536.2	537.6	538.2	538.1	537.9	537.8	537.7
17.5°	523.5	524.7	525.9	526.4	526.2	526.0	525.9	525.6
20°	515.2	516.4	517.6	518.3	518.4	518.6	518.7	518.8
22.5°	506.1	507.7	509.2	509.9	509.8	509.8	509.7	509.6
25°	490.8	492.6	494.3	495.2	495.2	495.2	495.2	495.2
27.5°	474.8	476.3	477.8	478.6	478.7	478.8	479.0	479.0
30°	463.8	465.4	467.1	467.9	467.9	467.9	467.9	467.9
32.5°	451.9	453.6	455.3	456.4	456.7	457.0	457.3	457.6
35°	434.3	436.3	438.3	439.6	440.1	440.7	441.2	441.8
37.5°	416.0	418.3	420.6	422.0	422.4	422.8	423.3	423.7
40°	403.9	406.2	408.4	409.9	410.4	411.0	411.5	412.0
42.5°	391.2	393.7	396.2	397.8	398.6	399.3	400.1	400.8
45°	372.2	374.8	377.4	379.2	380.2	381.4	382.5	383.5
47.5°	353.2	356.0	358.9	360.8	361.6	362.4	363.3	364.1
50°	339.9	343.1	346.2	348.2	349.1	350.1	351.0	352.0
52.5°	326.6	329.8	333.0	335.2	336.4	337.5	338.7	339.8
55°	306.4	310.1	313.7	316.1	317.2	318.2	319.3	320.4
57.5°	285.9	289.5	293.2	295.6	296.9	298.2	299.4	300.7
60°	271.6	275.3	279.1	281.7	283.2	284.6	286.1	287.6
62.5°	257.9	261.7	265.5	268.1	269.4	270.8	272.2	273.5
65°	236.2	240.3	244.4	247.1	248.4	249.8	251.1	252.5
67.5°	214.7	219.1	223.6	226.3	227.4	228.5	229.7	230.8
70°	200.4	204.7	209.1	211.8	213.2	214.5	215.9	217.2
72.5°	186.0	190.4	194.9	197.8	199.2	200.5	201.8	203.2
75°	164.2	168.7	173.2	176.2	177.8	179.4	181.0	182.7
77.5°	143.9	148.5	153.2	156.2	157.5	158.7	159.9	161.2
80°	130.6	135.1	139.7	142.7	144.0	145.4	146.7	148.1
82.5°	118.4	122.9	127.5	130.6	131.9	133.2	134.6	135.9
85°	101.4	106.0	110.6	113.5	114.9	116.2	117.6	118.9
87.5°	89.6	94.3	99.0	102.2	103.5	104.9	106.4	107.6
90°	93.2	98.5	103.6	107.8	108.5	110.5	112.5	113.2
92.5°	125.8	119.5	119.1	118.7	118.9	118.3	120.2	120.3
95°	291.4	223.7	195.1	175.5	165.2	160.9	158.0	156.8
97.5°	619.6	512.9	437.0	365.7	321.3	294.8	279.4	275.4
100°	790.8	744.6	676.0	590.7	529.5	485.6	462.8	464.8
102.5°	845.7	847.9	809.5	756.2	708.9	674.5	655.6	642.7
105°	858.3	923.9	939.4	925.8	898.6	876.2	857.6	855.8
107.5°	804.9	909.0	966.9	991.3	993.0	986.3	980.8	976.3
110°	755.6	873.1	954.7	1000.3	1018.7	1024.7	1024.5	1024.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	706.4	826.2	917.1	975.1	1008.1	1024.6	1030.5	1031.9
115°	641.3	752.3	846.5	916.2	963.8	992.0	1005.5	1009.7
117.5°	592.7	689.0	774.0	844.5	894.1	926.3	945.2	950.5
120°	566.8	653.6	730.9	795.5	845.4	881.0	896.8	901.5
122.5°	545.8	624.5	696.4	756.5	800.8	833.0	850.3	856.0
125°	517.5	587.8	650.1	701.6	742.1	770.3	786.7	792.0
127.5°	492.2	555.1	611.3	658.2	694.5	718.7	733.6	738.5
130°	476.2	534.5	587.2	631.0	664.6	687.8	701.6	707.3
132.5°	461.1	514.8	564.0	605.9	637.6	660.8	673.3	677.6
135°	440.7	487.1	529.8	566.6	597.7	617.0	628.8	633.7
137.5°	422.0	460.2	496.9	528.9	555.2	574.6	584.8	588.3
140°	410.9	444.5	476.3	504.2	528.5	546.4	557.1	557.1
142.5°	400.1	429.0	456.6	481.0	501.8	517.8	527.4	527.4
145°	388.0	409.6	430.4	449.2	465.2	478.8	484.3	486.0
147.5°	378.2	394.7	411.1	424.2	436.5	445.8	450.9	451.9
150°	371.6	385.9	398.9	410.7	420.3	427.4	431.4	431.7
152.5°	366.1	378.4	389.9	399.7	407.1	413.5	415.7	415.8
155°	358.0	367.9	377.2	384.6	390.1	395.1	396.4	397.0
157.5°	349.3	357.6	364.8	370.6	375.4	379.1	380.2	380.0
160°	344.4	351.2	357.4	361.7	366.1	369.7	369.7	369.2
162.5°	338.4	344.2	349.9	353.8	356.6	359.8	359.8	359.3
165°	330.7	334.5	338.8	341.9	344.4	346.8	346.2	346.2
167.5°	324.0	326.9	329.4	331.6	332.7	334.5	333.8	333.8
170°	319.6	321.5	323.9	325.2	325.7	327.0	326.4	326.4
172.5°	315.6	317.0	318.9	319.7	319.8	321.1	320.0	319.5
175°	310.3	310.9	312.1	312.1	312.1	312.8	312.1	311.6
177.5°	307.0	307.4	307.9	307.9	307.4	307.9	307.0	307.0
180°	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9

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